EXHIBIT B

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

GUARDANT HEALTH, INC.,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	Case No.
	)	3:21-cv-04062-EMC
NATERA, INC.,	)	
	)	
Defendant.	)	
_____	)	

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY
VIRTUAL VIDEOCONFERENCE VIDEO-RECORDED DEPOSITION OF
VAN KARLYLE MORRIS, M.D.

Tuesday, October 1, 2024
Remotely Testifying from Houston, Texas

Stenographically Reported By:
Hanna Kim, CLR, CSR No. 13083
Job No. 6938846

disease.

So we know that these patients, just by virtue of the Stage IV diagnosis, are, you know, at a higher risk to come back and -- but you -- if you want to see if the -- if, you know, a test in this -- you know, in this clinical context, circulating tumor DNA, can identify patients who are, you know, at a high risk for their cancer to come back, you need to make sure that the cancer does come back -- or you've given enough time for that to -- to declare itself. 07:50:31 07:50:47

So -- so, you know, for patients with Stage IV disease, we would, you know, anticipate, you know, probably -- you know, the detection of ctDNA may predate, you know, detection of clinical recurrence, i.e., you know, for example, cancer that's noted on a CT can or a PET scan or an MRI scan by, you know, six to nine months. 07:51:05

So, you know, in this -- when -- you know, when we say in patients with a minimum of one-year follow-up, you know, we've given enough time to identify -- to identify -- you know, enough time to wait and see, like is the cancer going to come back. 07:51:23

So I think that was probably why, you know, this phrase was inserted here into the 07:51:40

right?

A. Yes, I believe that's correct. That's -- yes, that's correct.

Q. And by 2018, the COBRA study had been designed; correct? 08:16:40

A. The -- yeah, I mean, I think the schema for the trial, you know, had been approved by NCI --

Q. Yeah.

A. -- in working with NRG Oncology.

Q. The COBRA study did not plan to collect or use clinical data about patients' recurrence; correct? 08:16:54

A. Sorry, can you say that again?

Q. Sure.

The COBRA study did not plan to collect or use clinical data about patients' recurrence; right? 08:17:04

A. That is not correct. You know, we were -- we continue to routinely follow study participants with CT scans, clinical assessments, colonoscopies, you know, and the like to -- and -- to assess patients for clinical recurrence. 08:17:27

Q. Do you currently have the clinical outcomes for the patients involved in the COBRA study? And what I'm focusing on are the 16 that we're focused on. 08:17:41

A. We do not -- I -- I do not personally have that inform- -- knowledge of that information for those 16 patients.

Q. What about for the -- for the 30 -- by the way, let's take a step back. 08:17:52

It sounds like there were 600 patients that were tested for ctDNA and results were obtained for about 600 of them; right?

A. Yeah, I -- yes, that -- those numbers sound accurate. 08:18:07

Q. I guess 596, somewhere in that area?

A. That sounds right.

Q. Okay. And then the first -- was it first 30 or 32 were looked at a little bit more closely? Is that right? 08:18:22

A. Yeah, so --

Q. Let me rephrase that. That was a bad question.

Of those 600 patients or 596, did around 32 or 33 test positive for ctDNA after surgery? 08:18:33

A. I believe, to the best of my knowledge, that that information was made available to us by Guardant after the analysis of the Phase 2 endpoint.

For the analysis of the Phase 2 endpoint, we evaluated 16 patients who had detectable 08:18:50

circulating tumor DNA at baseline.

Q. Okay. So for those 16 patients, you do not have any clinical data; correct?

MR. BRAMHALL: Objection to form.

THE WITNESS: There is clinical data being collected for these patients. I do not have personal knowledge of the clinical outcomes for those 16 patients. 08:19:05

BY MR. SCOLNICK:

Q. Understood. 08:19:19

So let me rephrase the question, then.

You are not aware of the clinical outcomes for any of those 16 patients; correct?

A. That is correct.

Q. You don't know how many of those patients recurred; correct? 08:19:28

A. That is correct.

THE COURT REPORTER: Counsel, this is the court reporter. We've been going for a while.

MR. SCOLNICK: Sure. 08:19:46

THE COURT REPORTER: Could we take a break soon?

MR. SCOLNICK: Off the record.

MR. BRAMHALL: Sure.

THE VIDEOGRAPHER: We are off the record 08:19:52

BY MR. SCOLNICK:

Q. I'm referring to Table 7.

A. Yeah, this is, yeah, a summary of negative accuracy.

Q. And is that specificity? 08:49:21

A. So specificity is the -- the ratio of true negatives relative to true negatives plus false positives. So, yes, specificity does incorporate and consider events true -- true negative events.

Q. And you have no reason to doubt the 08:49:45 accuracy of this information; correct?

A. No. And we --

MR. BRAMHALL: Objection to the form.

THE WITNESS: -- we took this in -- we -- yes, we took this in good faith from, you know, our 08:49:55 collaborators at Guardant.

BY MR. SCOLNICK:

Q. Guardant disclosed that its analytical specificity was around 95 percent; is that true?

A. Now, when look at the -- 08:50:07

MR. BRAMHALL: Objection to form.

THE WITNESS: In this document in Table 7, when you look at the column that says "Final ctDNA result (Genomic" --

(Interruption in audio/video.) 08:50:17

THE COURT REPORTER: Sorry, I can't hear you very well. Can you say that slower?

THE WITNESS: I'm sorry.

When you look at the row in Table 7 that reads "Final ctDNA result (Genomic plus Epigenomic)" [as read], they report a percent specificity of 94.6 percent. So I would agree with that comment. 08:50:21

BY MR. SCOLNICK:

Q. When is the first time you recall seeing this document? 08:50:40

A. I cannot recall that information.

Q. Do you recall discussing this document with anyone at NRG?

A. As -- in 2024, I honestly don't.

Q. Do you recall discussing Guardant's approximately 95 percent specificity with anyone at NRG before 2023? 08:50:57

A. Before 2023? I don't recall any specific details. I would suspect that we -- you know, I would suspect, yes, that we did discuss this, but I -- I cannot -- you know, I cannot recall a date or a time or a specific person. 08:51:18

Q. Opposing counsel for Natera asked you some questions about a letter that NRG sent to patients in 2023? 08:51:42

A. I think it --

MR. BRAMHALL: Objection to form.

THE WITNESS: I think that it is possible that with any assay, any circulating tumor DNA assay, it is possible that a report will come back as ctDNA detected when the patient may not have actual cancer present. I think that it is possible, yes. 08:52:48

BY MR. SCOLNICK:

Q. And -- and in a clinical setting, what a false positive is, is a ctDNA result that comes back positive, that you later cross reference with clinical data like a CT scan, and you find out no cancer is visible; right? 08:53:02

MR. BRAMHALL: Objection to form. 08:53:20

THE WITNESS: I think that that is -- that can -- that is an accepted definition.

BY MR. SCOLNICK:

Q. In the COBRA study, there was no clinical data for the 16 patients that were analyzed in the interim futility analysis; right? 08:53:31

A. We did not have that data available.

Q. Let me rephrase that.

For the 16 patients that were examined in the futility analysis for COBRA, you're not aware of 08:53:45

whether or not they recurred; right?

A. For the futility analysis, the endpoint was the clearance of circulating tumor DNA, but any objective was to compare the clearance of ctDNA among patients with detectable ctDNA betweens [verbatim] -- between Arms A and B. 08:54:05

Q. Is it true that because you do not have clinical data, that you're not aware of clinical data for any of those 16 patients, you don't know whether they recurred? 08:54:21

A. I do not know whether or not any of the 16 patients recurred.

Q. Is it also true with respect to those 16 patients, you're not aware -- you don't know whether any of those were clinical false positives? 08:54:33

A. I'm sorry, can you --

MR. BRAMHALL: Objection to form.

MR. SCOLNICK: Sure.

THE WITNESS: Can you ask the question again? 08:54:39

BY MR. SCOLNICK:

Q. Yeah. With respect to those 16 patients that were examined in the futility analysis for COBRA, you're not aware of whether any of their results were false positives -- clinical 08:54:50

performed, we were made aware that perhaps with an updated calling system, that there may be examples for which there was discordance between the protocol specified assay determination and what the Guardant team felt may -- you know, may be the case according to updated, you know -- the updated technologies. 08:56:57

Q. Okay. I'm going to ask you some questions about statistics.

A. Okay.

Q. So we had about 600 patients who were tested for ctDNA in COBRA; right? 08:57:20

A. Okay.

Q. These were Stage IIA patients; right?

A. Yes.

Q. And would we expect about 10 percent of them to recur? 08:57:33

A. Yes. That's -- I think a fair -- it's a fair -- it's -- that's in the ballpark, yes.

Q. CtDNA tests are around -- strike that.

Is it true that ctDNA tests have about 50 percent sensitivity, more or less, at landmark? 08:57:55

A. I mean, we would have to go back and refer to, you know, clearly specified data. But -- but if that's consistent with the data, yes.

Q. So in a -- in the population of 600 08:58:17

patients where there's 10 percent recurrence, that means 60 people would recur with cancer; right?

A. Yes.

Q. And if there's a test with 50 percent sensitivity, that means you'd expect about 30 of them to test positive for ctDNA; right? 08:58:30

A. Yes, that's correct.

Q. Now, let's assume we're using a test with a 95 percent specificity. That means a 5 percent false positive rate; right? 08:58:49

A. 95 percent -- yes, like, more -- yeah.

Q. So in a cohort with -- of 600 with a 10 percent recurrence rate, that means 90 percent are not recurring; right?

MR. BRAMHALL: Objection to form. 08:59:08

THE WITNESS: Yes.

BY MR. SCOLNICK:

Q. So that means we'd expect 540 people to not recur?

A. Yes. 08:59:15

Q. And if we're trying to determine how many of those people would be false positives, then we multiply that 540 times 5 percent; right?

MR. BRAMHALL: Objection. Let me just ru- -- have a running objection to these questions 08:59:30

on statistics with this hypothetical.

THE WITNESS: I -- and I'll just say, like -- I mean, if I had, like, a piece of paper, I could crunch these numbers, I would feel more comfortable -- 08:59:44

BY MR. SCOLNICK:

Q. Okay.

A. -- answering this. I do feel that perhaps, you know, if it's my place to even say this -- and, Liz, please step in -- may- -- maybe a question like that is better suited for a statistician for definitive, like, correct answers. But, I mean, I think that, in general, what you're saying, you know, seems correct. 08:59:50

MR. SCOLNICK: Okay. 09:00:08

Well, why don't we go off the record quickly so you can get a pen and paper, and we may need to visit -- revisit this with someone else, but hopefully not.

So can we go off the record? 09:00:17

THE WITNESS: Sure.

THE VIDEOGRAPHER: We are off the record at 11:00 a.m.

(Off the record.)

THE VIDEOGRAPHER: This is the beginning 09:01:46

of Media File Number 6. We are back on the record at 11:01 a.m.

BY MR. SCOLNICK:

Q. Okay. So we left off, and I asked a question of -- in a -- in a population -- a cohort of about 600 people, as we had in COBRA -- 09:02:04

A. Right.

Q. -- using it at 95 percent specificity, is it true that you'd expect -- you'd expect to see about 27 false positives? 09:02:19

A. So 95 percent specificity, .95 equals true negative, plus true negative, plus false positive. So the true negatives, it's going to be .95 times 540. I'm pulling out my phone right now. And if I just pull my calculator out, 540 times .95 is 500 -- 09:02:41 true negatives equals 513. So false positives is 540 minus 5 -- sorry, 540 minus 513, which is 27 false positives.

Q. Right.

So is it true that a test with 95 percent specificity in the COBRA cohort, you would expect to see about as many false positives as true positives? 09:03:03

MR. BRAMHALL: Sorry. I meant to object. Objection to form. Calls for speculation. Hypothetical. Expert testimony. 09:03:25

THE WITNESS: So if you just do the math with the 50 percent sensitivity -- sorry.

I'm just writing this down. That's .5 -- I'm sorry. I'm just on the spot. So true positive plus false negative -- so the true positive is 30. 09:03:46
False negative is 30 as well. So, yes, I believe that what you're saying is more or less correct.

BY MR. SCOLNICK:

Q. Do you recall discussing with anyone at NRG between 2019 and 2023, that you should expect 09:04:00
about as many false positives and true positives in the COBRA cohort?

A. I don't recall that conversation. And we were, you know, speaking -- we were acting in good faith with, you know, what we believed was the -- 09:04:20
the, you know, best assay to conduct the studies when the clinical trial was activated.

Q. Why did Roche -- you told us first that Roche had a -- a test that was selected for the COBRA study; right? 09:04:39

A. Yes.

Q. Do you recall why they dropped out of the study?

A. It was for -- they told us it was for financial reasons, and that they were not committed 09:04:49

to funding conduct of ctDNA for two time points for 1,400 patients -- for -- it -- it was conveyed to us to the best of my recollect- -- recollection that it was a financial decision.

Q. Do you recall having a conversation with -- first of all, who is Dr. Gr- -- Greg Yothers? Do you know who he is? 09:05:10

A. He's the study statistician for the COBRA trial.

Q. Do you recall having a discussion with Dr. Yothers regarding a design flaw in the study? 09:05:31

MR. BRAMHALL: Objection to form.

THE WITNESS: Can you specify at what point?

BY MR. SCOLNICK: 09:05:41

Q. Sure.

Last year, in the second half of last year, do you recall Dr. Yothers acknowledging a potential design flaw with the COBRA study?

A. In -- in reviewing the documents for preparing for this deposition, we did review an e-mail that was written after completion of the analysis of the Phase 2 endpoint. 09:05:57

Q. Do you recall Dr. Yothers acknowledging a potential design flaw with the study before the 09:06:12

MS. LOCKWOOD: Yeah.
BY MR. SCOLNICK:
Q. What, if anything, do you remember about -- about Dr. Yothers discussing a potential design flaw of the study last year? 09:07:14
A. You know, I think in preparing for this deposition, I reviewed with --
MS. LOCKWOOD: Wait, Dr. Morris. I'll remind you, don't discuss any of the substance of the conversations that we've had. 09:07:30
This is why we need the document in front of him, Chase.
MR. SCOLNICK: Got it.
Okay. I am introducing Exhibit 379.
(Morris Deposition Exhibit 379 was marked for identification.) 09:07:37
BY MR. SCOLNICK:
Q. And if I could have you look at -- well, first of all, this is an e-mail from Dr. Yothers to you and Dr. George; correct? 09:07:55
A. Mm-hmm. Yes.
Q. And he wrote in the last paragraph at the top e-mail, "I noticed you didn't include the slide proposed by Guardant showing how the combination of sensitivity and prevalence of ctDNA may have 09:08:06

affected the study. I know it may be awkward to wade into this, but this really is the take home message that needs to be disseminated." [As read]

Do you remember what Dr. Yothers was referring to here? 09:08:24

A. Kimberly Banks from Guardant Health had provided us kind of a -- an Excel file that kind of calculated, you know, rates of false positive, false negatives, you know, according to expected rates of recurrence at various specificity levels. 09:08:43

Q. And was it pointed out in that e-mail that NRG would expect to see about as many true and false positives in a cohort like COBRA with a 10 percent recurrence rate?

MS. LOCKWOOD: Object to the form. 09:09:04

MR. BRAMHALL: Objection. Form.

MS. LOCKWOOD: But if you want to put the document in front of him. He can't speculate, so --

THE WITNESS: Yeah, I would -- I would have to review the e-mail. 09:09:11

BY MR. SCOLNICK:

Q. Well, going back to 415, which is Dr. Parikh's presentation --

A. Mm-hmm.

Q. -- do you recall in that presentation 09:09:21

(Proceedings concluded, 12:19 p.m., CDT, on October 1, 2024.)

CERTIFICATE OF REPORTER

I, Hanna Kim, a Certified Shorthand Reporter, do hereby certify:

That prior to being examined, the witness in the foregoing proceedings was by me duly sworn to testify to the truth, the whole truth, and nothing but the truth;

That said proceedings were taken before me at the time and place therein set forth remotely via videoconference and were taken down by me in shorthand and thereafter transcribed into typewriting under my direction and supervision;

I further certify that I am neither counsel for, nor related to, any party to said proceedings, not in anywise interested in the outcome thereof.

Further, that if the foregoing pertains to the original transcript of a deposition in a federal case, before completion of the proceedings, review of the transcript [X] was [ ] was not requested.

In witness whereof, I have hereunto subscribed my name.

Dated: 10/2/24

Hanna Kim

CLR, CSR No. 13083